

**Work Order ID 70014**

Wednesday, May 25, 2011 12:02:51 PM



Page 1

Item ID: D3016-041

Accept



Setup Start



Revision ID:

Stop



Item Name: Seat Frame Assembly

Start Date: 5/25/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 6/10/2011 Req'd Qty: 1.00



Customer:

Reference:

Approvals:

Process Plan: CLDate: 11/05/25

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

Draw Nbr

Revision Nbr

D3016

RevA / DEO A-1

100

Weld per dwg A/R 4130 rod Batch: M100075 0.00

Large Fab

Large Fab

Memo

0.00

Large Fab

1-Cut all tubes as per Dwg D3016

2-Deburr

3-Assemble tubes, fittings and weld as per Dwg D3016 using welding jig  
DT8597

4-Transfer drill holes from D3017-041 and D3021-041 in seat frame D3016-041

5- Assemble brackets and gusset per dwg and weld

CL 11-6-8 (Signature)

110

QC9- Inspect visual per QSI004- Fusion Welds 0.00



QC

Memo

0.00

Quality Control

1 Q BEU/06/13

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

**Work Order ID 70014**

Wednesday, May 25, 2011 12:02:51 PM

Page 2

Item ID: D3016-041

Accept

Setup Start

Revision ID:

Stop

Item Name: Seat Frame Assembly

Start Date: 5/25/2011 Start Qty: 1.00

Required Date: 6/10/2011 Req'd Qty: 1.00

Cust Item ID:

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start

QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

120

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

8 w/o 6/14

(x1)  
set

Quality Control

130

Grey Sandtex(Ref:4.3.5.6) per QSI005 4.3

0.00



Powdercoat

Memo

0.00

Powder Coating

Install paint screws on fitting ends

START TIME:

OVEN TEMPERATURE:

FINISH TIME:

8:30  
320 OF  
9:00

IX Ø m-L 11/06/14

140

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

1 11-6-14

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

**Work Order ID 70014**

Wednesday, May 25, 2011 12:02:51 PM



Page 3

Item ID: D3016-041

Accept



Setup Start



Revision ID:

Stop



Item Name: Seat Frame Assembly

Start Date: 5/25/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 6/10/2011 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

150

Identify as per dwg & Stock Location: G-A

0.00



Packaging

Memo

w/o 70006

0.00

Packaging

ES 11/06/14

160

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

MLC 11/14ME 11-06-14

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

# Picklist Print

Wednesday, May 25, 2011 12:02:48 PM

Page 1

Work Order ID: 70014

Parent Item: D3016-041

Parent Item Name: Seat Frame Assembly





Start Date: 5/25/2011

Required Date: 6/10/2011

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP A 01.09.19 New issue EC IPP RevB: as per revB DD verified by:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M4130NT0.750W.049 		Purchased	No			100	f	48.0990	4.3	4.526316			
4130 RD Tube .750 x.049W													
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				MAT033		48.099							
				118740		1.129							
				117691		46.97							
M4130NT0.500W.049 		Purchased	No			100	f	54.4900	4.3	4.526316			
4130 RD Tube .500 x.049W													
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				MAT032		54.49							
				110740		54.49							
M4130NT1.000W.120 		Purchased	No			100	f	27.6400	1.5	1.578947			
4130 RD Tube 1.00 x .120wall													
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				MAT033		27.64							
				117372		2.64							
				117656		25							
D3016-17 		Manufactured	No			100	Each	4.0000	2	2			
Gusset													
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				WA019		4							
				68736		4							

EL 11-6-8

1.19 \* No more stock.  
4.52

EL 11-6-5

4.52

EL 11-6-5

1.32

EL 11-6-13

2

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



# Picklist Print

Wednesday, May 25, 2011 12:02:48 PM

Page 2

Work Order ID: 70014



Parent Item: D3016-041



Parent Item Name: Seat Frame Assembly

Start Date: 5/25/2011

Required Date: 6/10/2011

Start Qty: 1.00

Required Qty: 1.00

D3016-13

Manufactured No

100 Each

2.0000

2 2



Bracket



EL 11-6-13

Location

Loc Qty

Loc Code

WA019

2

~~44776~~

70015

2

D3016-15

Manufactured No

100 Each

6.0000

2 2



Gusset



EL 11-6-13  
~~17-6-13~~

Location

Loc Qty

Loc Code

WA019

6

68735

6

D3020-1

Manufactured No

100 Each

9.0000

4 4



Fitting



EL 11-6-8

Location

Loc Qty

Loc Code

WA

9

36713

9

4

Wednesday, May 25, 2011 12:02:49 PM

Shop Packet Print

Page 2

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



DESIGN <i>CP</i>	DRAWN BY <i>CP</i>	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>#</i>	APPROVED <i>#</i>	DRAWING NO. D3016	REV. A SHEET 1 OF 3
DATE 01.05.18		TITLE SEAT FRAME ASSEMBLY	SCALE NTS
A	01.05.18	NEW ISSUE	

QTY	PART NUMBER	DESCRIPTION	MATERIAL
X	D3016-041	SEAT FRAME ASSEMBLY	N/A
1	D3016-1	TUBE	AISI 4130N TUBE, Ø0.75 DIA x 0.049 WALL (M4130N-T0750W049)
2	D3016-3	TUBE	AISI 4130N TUBE, Ø0.75 DIA x 0.049 WALL (M4130N-T0750W049)
1	D3016-5	TUBE	AISI 4130N TUBE, Ø0.50 DIA x 0.049 WALL (M4130N-T0500W049)
2	D3016-7	TUBE	AISI 4130N TUBE, Ø0.50 DIA x 0.049 WALL (M4130N-T0500W049)
1	D3016-9	SADDLE	AISI 4130N TUBE, Ø1.00 DIA x 0.120 WALL (M4130N-T1000W120)
1	D3016-11	SADDLE	AISI 4130N TUBE, Ø1.00 DIA x 0.120 WALL (M4130N-T1000W120)
1	D3016-13	BRACKET	AISI 4130N SHEET, 18 GAUGE (M4130N-S049)
1	D3016-15	GUSSET	AISI 4130N SHEET, 18 GAUGE (M4130N-S049)
1	D3016-17	GUSSET	AISI 4130N SHEET, 18 GAUGE (M4130N-S049)
2	D3020-1	FITTING	N/A

#### NOTES

- 1) WELD PER DART QSI 004
- 2) ON SHEET METAL PARTS, BREAK ALL UNMARKED CORNERS 0.020-0.040
- 3) FINISH: POWDER COAT GREY SANDTEX (REF. 4.3.5.6) PER DART QSI 005 4.3
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

*CL11105/25*

*WID: 70014*

**DEO ATTACHED**

**RELEASED**  
01.05.30 *#*

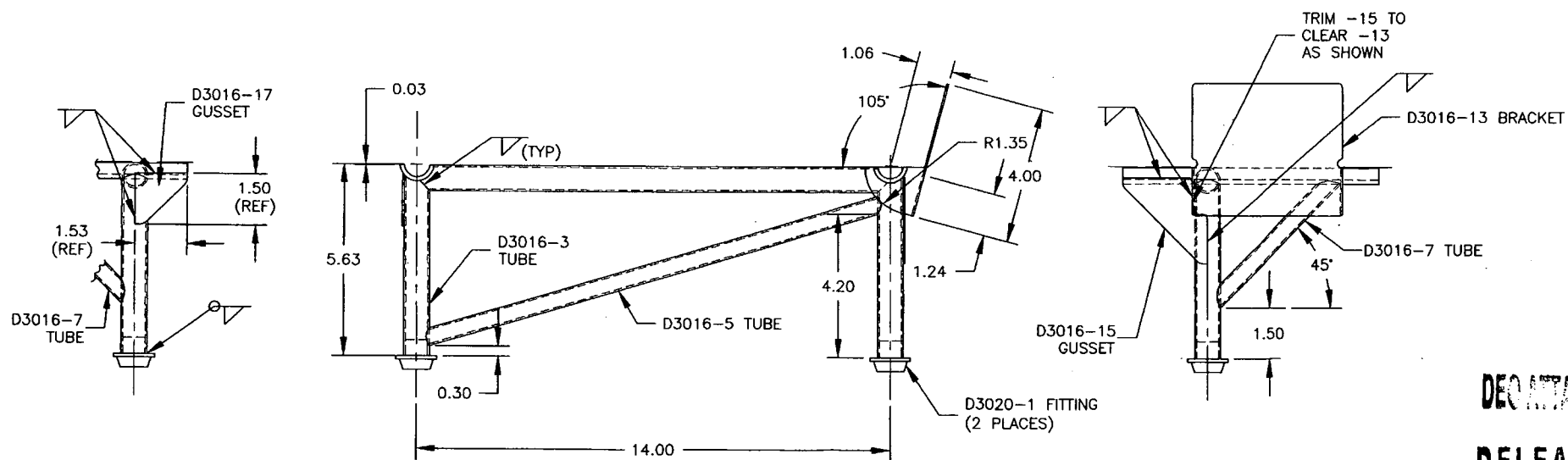
Copyright © 2001 by DART AEROSPACE LTD

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.

Diagram illustrating the elevation view of the D3016-1 tube assembly. The assembly consists of two vertical supports, labeled D3016-9 SADDLE and D3016-11 SADDLE, connected by a horizontal tube, labeled D3016-1 TUBE.

Dimensions (in inches) are indicated:

- Overall height of the left saddle: 6.65 (REF)
- Height from the base to the centerline of the tube: 5.13
- Height from the base to the centerline of the tube on the right saddle: 5.13
- Height from the centerline of the tube to the top of the right saddle: 3.33 (REF)
- Height from the centerline of the tube to the top of the right saddle (alternative dimension): 4.50 (REF)
- Overall height of the right saddle: 7.63 (REF)



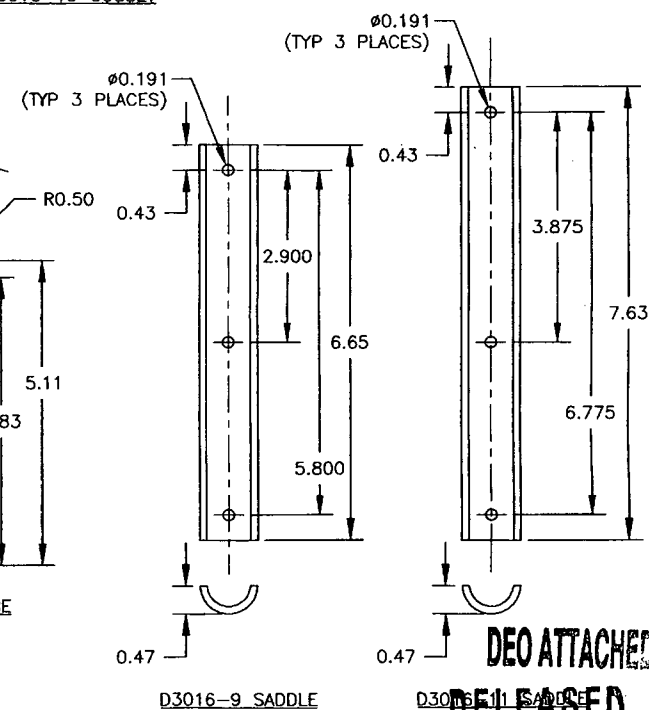
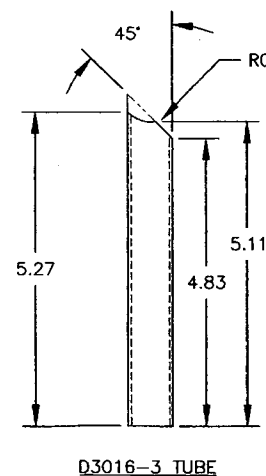
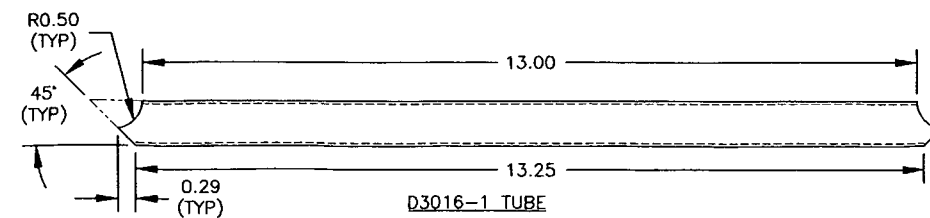
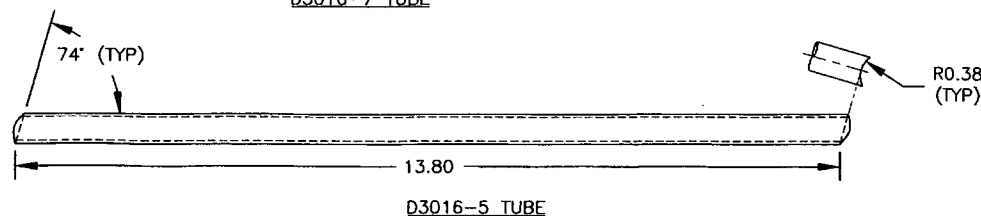
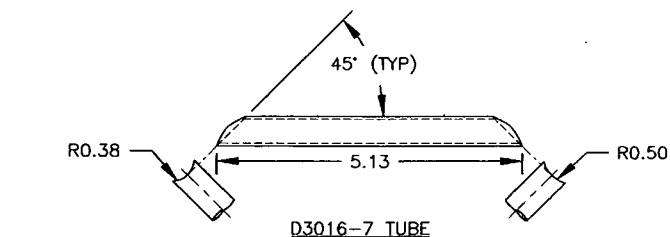
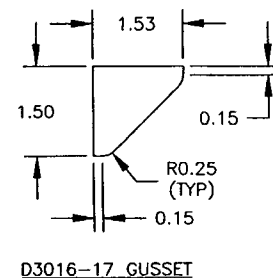
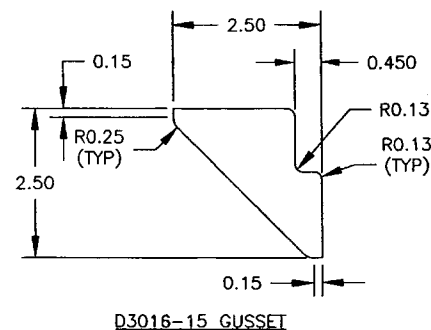
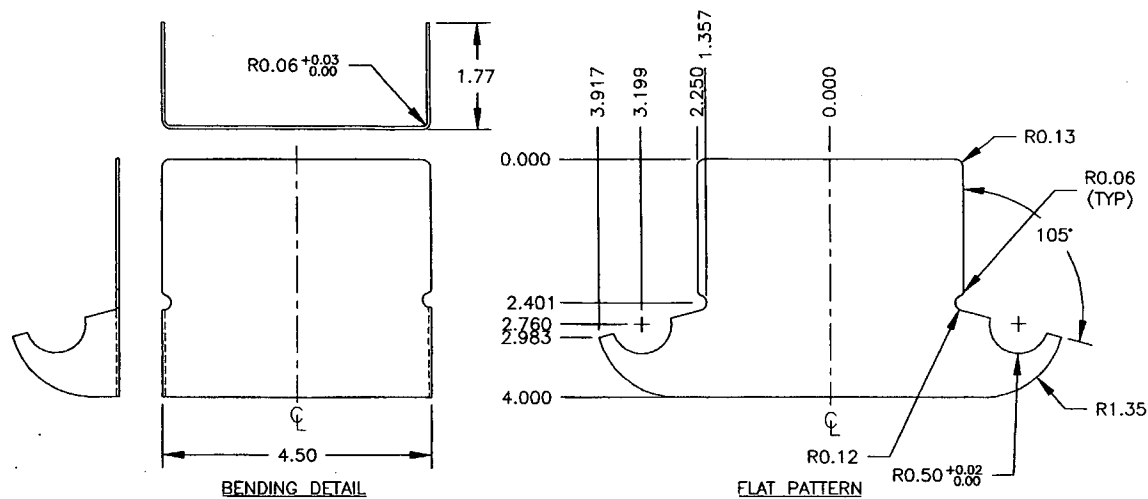
DETOACHED

RELEASE  
01.05.30

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL  
AND IS SUPPLIED ON THE EXPRESS CONDITION  
THAT IT IS NOT TO BE USED FOR ANY PURPOSE  
OR COPIED OR COMMUNICATED TO ANY OTHER  
PERSON WITHOUT WRITTEN PERMISSION FROM  
DART AEROSPACE LTD.

DESIGN <i>CP</i>	DRAWN BY <i>CP</i>
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>
DATE 01.05.18	

<b>DART</b>		<b>DART AEROSPACE LTD.</b> HAMPSHIRE, ONTARIO, CANADA	
DRAWING NO. D3016		REV. A SHEET 2 OF 3	
TITLE SEAT FRAME ASSEMBLY		SCALE 1:3	



DEO ATTACHED  
RELEASED  
9.05.30

COPYRIGHT © 2001 BY DART AEROSPACE LTD.

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.

DESIGN CP	DRAWN BY CP	<b>DART</b>	DART AEROSPACE LTD. HARRISBURG, ONTARIO, CANADA
CHECKED #	APPROVED #	DRAWING NO. D3016	REV. A SHEET 3 OF 3
DATE 01.05.18	TITLE SEAT FRAME ASSEMBLY	SCALE 1:2	

DRAWING NO. D3016	TITLE SEAT FRAME ASSEMBLY	REV. A	<b>DART AEROSPACE LTD ENGINEERING ORDER</b>	D.E.O. NO. D3016-A-1	SHEET NO. SHEET 1 OF 1	SCALE NTS
DRAWN <i>1</i>	CHECKED <i>UP</i>	MFG. APPR. <i>EE</i>	APPROVED <i>WAP</i>	DE APPR. <i>W</i>		
DATE 10.01.29	DATE 10.01.29	DATE 10.01.29	DATE 10.01.29	DATE 10.01.29		

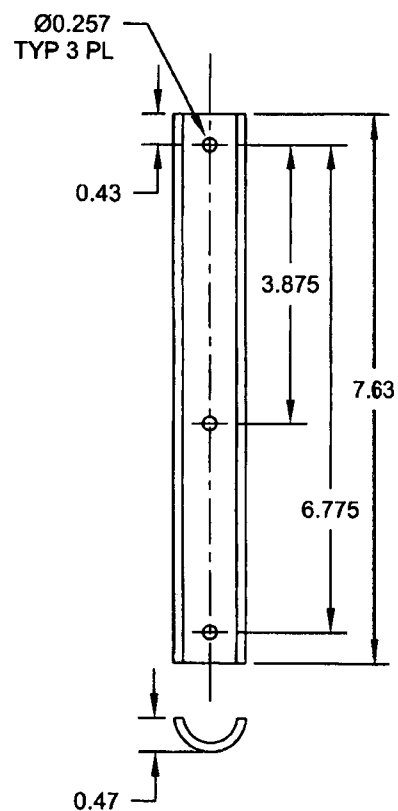
**PURPOSE:**

TO REVISE D3016-11 SADDLE'S HOLE SIZES

**CHANGE:**

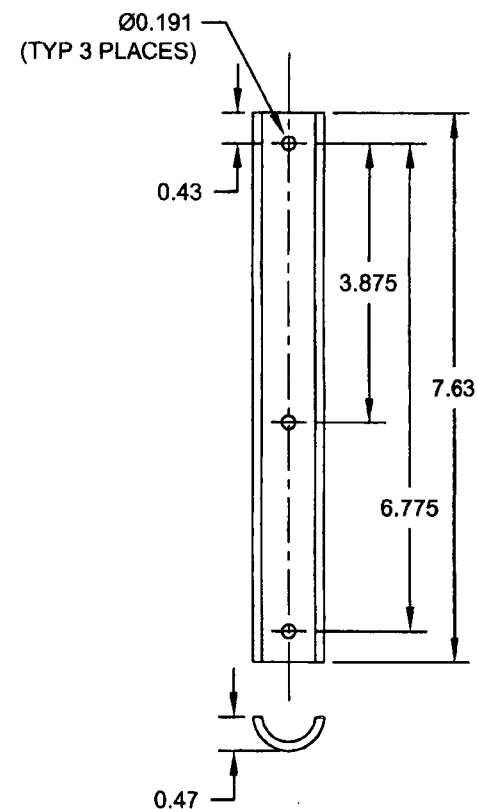
DETAIL D3016-11 SADDLE (SHEET 3): Ø0.257 TYP 3 PL WAS Ø0.191 (TYP 3 PLACES) AS SHOWN:

**IS:**



**D3016-11 SADDLE**

**WAS:**



**D3016-11 SADDLE**